

## AMENDMENTS TO THE CLAIMS:

A complete set of the claims is included below, as well as the current status of each claim. This listing of claims will replace all prior versions and listings of claims in the application:

1-70 (Cancelled)

71. (Currently Amended) In a home network having a plurality of network modules, one of said modules being a network master module, each of said network modules being connected to a coax backbone, a method for communicating over the coax backbone between network modules, the method comprising:

using the master module to receive requests sent over the coax backbone from network modules for bandwidth to transmit bursts;

establishing an order of transmission opportunities for the network modules to follow when transmitting bursts directly to other network modules via the coax backbone;  
and

using the master module to transmit an allocation burst over the coax backbone that allocates a transmission opportunity to each of the modules to transmit bursts directly to other network modules via the coax backbone, said transmission opportunity that depends at least in part on the amount of data ready for transmission in a selected transmission cycle, said allocation burst being based on said transmission order.

72. (Cancelled)

73. (Previously presented) The method of claim 71 further comprising designating one of the modules to be the master module.

74. (Previously presented) The method of claim 71 further comprising synchronizing the network modules to a predetermined burst transmitted by the master.

75. (Previously presented) The method of claim 71 further comprising allocating bandwidth to each network module requesting a guaranteed quality of service.

76. (Previously presented) The method of claim 71 further comprising receiving over the backbone, at a selected network module, a grant signal that indicates that the given network module can transmit a burst.

77. (Previously presented) The method of claim 71 further comprising transmitting, by a selected network module, an empty burst if the given network module has no data to transmit.

78. (Previously presented) The method of claim 71 further comprising changing the amount of allocated bandwidth.

79. (Previously presented) The method of claim 71 further comprising using the master module to change the order of transmission opportunities.

80. (Previously presented) The method of claim 71 further comprising using the master module to change the order of transmission opportunities and to change the amount of allocated bandwidth.

81. (Previously presented) The method of claim 71 further comprising using the master module to allocate an opportunity to a module involved in a registration process, said opportunity for transmitting a self-training burst.

82. (Currently Amended) A home network comprising:

a coax backbone;

a plurality of network modules, each of said network modules being connected to the coax backbone; and

a network master module connected to the coax backbone, the master module that receives requests from the network modules over the coax backbone, the requests being for bandwidth to transmit bursts directly over the coax backbone to other network modules, the master module that establishes a transmission order of transmission opportunities for the network modules to follow when transmitting bursts to other network modules and that transmits a burst over the coax backbone that allocates a transmission opportunity to each of the modules to transmit bursts, said burst being based on said transmission order, said transmission order being based at least in part on said received requests, wherein each of the network modules is configured to communicate with other network modules via the coax backbone and wherein a parameter of a transmission opportunity for a selected network module depends at least in part on an amount of data ready for transmission at the selected network module in a selected transmission cycle.

83. (Cancelled)

84. (Previously presented) The network of claim 82 wherein, in response to a predetermined burst transmitted by the master, the plurality of network modules are synchronized.

85. (Previously presented) The network of claim 82 further comprising bandwidth allocated to each network module requesting a guaranteed quality of service.

86. (Previously presented) The network of claim 82 further comprising a grant signal that indicates that a given network module can transmit a burst.

87. (Previously presented) The network of claim 82 further comprising an empty burst associated with a selected network module that has communicated that the selected network module includes no data to transmit.

88. (Previously presented) The network of claim 82 wherein the master module is adapted to change the order of transmission opportunities.

89. (Previously presented) The network of claim 82 further comprising a self-training burst that is adapted to be received by a network module involved in a registration process.

90-95. (Withdrawn)

96. (Currently Amended) An integrated circuit storing computer-executable instructions which, when executed by a processor on a computer system, perform a method, the method comprising:

in a home network having a plurality of network modules, one of said modules being a network master module, each of said network modules being connected to a coax backbone, communicating over the coax backbone directly between network modules, the communicating comprising:

using the master module to receive requests sent over the coax backbone from network modules for bandwidth to transmit bursts,

in response to receiving the requests, establishing an order of transmission opportunities for the each of the plurality of network modules to follow when transmitting bursts to other network modules; and

using the master module to transmit an allocation burst over the coax backbone that allocates a transmission opportunity to each of the plurality of

network modules to transmit bursts, said allocation burst being based on said transmission order, said transmission opportunity that depends at least in part on the amount of data ready for transmission in a selected transmission cycle.

97. (Cancelled)

98. (Previously Presented) The method of claim 96 further comprising designating one of the modules to be the master module.

99. (Previously Presented) The method of claim 96 further comprising synchronizing the network modules to a predetermined burst transmitted by the master.

100. (Previously Presented) The method of claim 96 further comprising allocating bandwidth to each network module requesting a guaranteed quality of service.

101. (Previously Presented) The method of claim 96 further comprising receiving over the backbone, at a selected network module, a grant signal that indicates that the given network module can transmit a burst.

102. (Previously Presented) The method of claim 96 further comprising transmitting, by a selected network module, an empty burst if the given network module has no data to transmit.

103. (Previously Presented) The method of claim 96 further comprising changing the amount of allocated bandwidth.

104. (Previously Presented) The method of claim 96 further comprising using the master module to change the order of transmission opportunities.

105. (Previously Presented) The method of claim 96 further comprising using the master module to change the order of transmission opportunities and to change the amount of allocated bandwidth.

106. (Previously Presented) The method of claim 96 further comprising using the master module to allocate an opportunity to a module involved in a registration process, said opportunity for transmitting a self-training burst.